

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of)	
)	
Amendment of Part 15 of the)	RM-11666
Commission's Rules to Permit the)	
Operation of Vehicular Radar)	
Systems in the 77-81 GHz Band)	
)	
)	

To the Commission:

Comments of Nickolaus E. Leggett, N3NL

I am a certified electronics technician (ISCET and iNARTE) and an Extra Class amateur radio operator (call sign N3NL). I hold an FCC General Radiotelephone Operator License with a Ship Radar Endorsement. I am an inventor holding three U.S. Patents. My latest patent is a wireless bus for digital devices and computers (U.S. Patent # 6,771,935). I have a Master of Arts degree in Political Science from the Johns Hopkins University.

I am one of the original petitioners for the establishment of the Low Power FM (LPFM) radio broadcasting service (RM-9208 July 7, 1997 subsequently included in MM Docket 99-25). I am also one of the petitioners in the docket to establish a low power radio service on the AM broadcast band (RM-11287). I have filed a total of over 200 formal comments with the FCC over the years since the 1970s. I have filed comments with other Federal agencies as well including the FAA, EPA, and the TSA.

Long-Term Impacts of this Petition

This petition to expand the spectrum available for automobile radar will have negative impacts on both the radio astronomy service (RAS) and the amateur radio service (ARS). Over

time, literally millions of automobile radars would be put into service under the Part 15 rules. Then the competing uses of radio astronomy and amateur radio would be displaced. Amateur radio will probably be displaced in the name of protecting the safety aspects of the newly established automotive radars.

Radio Astronomy

As the petition itself points out, the automotive radars can interfere with the Kitt Peak Observatory at a substantial range. (Reference One). Furthermore widespread use of Part 15 radars will also probably interfere with other professional radio astronomy observatories as well. The radars will greatly limit the locations that can be used for radio astronomy. It should be remembered that radio telescopes receive very weak broadband radio emissions. This makes radio astronomy very vulnerable to interference.

In addition, the ubiquitous nature of the automobile radars will prevent most citizen (amateur) scientists from setting up their own radio astronomy observatories in this frequency band. I am a citizen scientist and this loss of a significant opportunity is of concern to me. Most of us citizen scientists live in parts of the country where large numbers of automobiles are in use.

Amateur Radio

As millions of automobile radars are placed into service, the interference levels to amateur radio operations will increase. This will conflict with growing amateur radio usage of the band enabled by my lighthouse protocol for random amateur radio communications on microwave and higher frequency bands. (Reference Two) This frequency band (77-81 GHz) with its tiny high-gain antennas would be good for urban-area amateur radio, and video, communication. However, the growing interference from Part 15 automobile radars will inhibit

amateur radio operation. Eventually amateur radio operation in the band would be prohibited to protect the safety of life aspects of the automobile radars.

Requested Action

The Commission should deny this petition for rule making because it would result in the displacement of two valuable radio services, radio astronomy and amateur radio, by the large influx of automobile radars under the cover of the modified Part 15 Rules.

Respectfully submitted,

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September 26, 2012

Reference One: Petition for rule making page 25

Reference Two: Nickolaus E. Leggett, N3NL, 'A "Lighthouse" Protocol for Random Microwave Contacts', QEX, ARRL, Newington CT, July 2004, Page 60